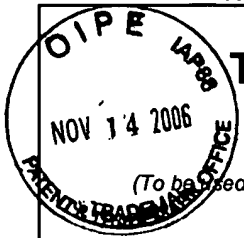


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PTO/SB/21 (12-97)
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Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE



TRANSMITTAL FORM

(To be used for all correspondence after initial filing)

Application No.	10/024,159
Filing Date	December 18, 2001
First Named Inventor	Jeffrey P. Milsap
Group Art Unit	2644
Examiner Name	B. Pendleton
Attorney Docket Number	MILSJE-2

Total Number of Pages in This Submission

<input type="checkbox"/> Fee Transmittal Form
<input type="checkbox"/> Fee Attached
<input type="checkbox"/> Amendment / Response
<input type="checkbox"/> After Final
<input type="checkbox"/> Affidavits/declaration(s)
<input type="checkbox"/> Extension of Time Request
<input type="checkbox"/> Express Abandonment Request
<input type="checkbox"/> Information Disclosure Statement
<input type="checkbox"/> Certified Copy of Priority Document(s)
<input type="checkbox"/> Response to Missing Parts/ Incomplete Application
<input type="checkbox"/> Response to Missing Parts Under 37 CFR 1.52 or 1.53

<input type="checkbox"/> Assignment Papers (For an Application)
<input type="checkbox"/> Drawing(s)
<input type="checkbox"/> Licensing-related Papers
<input type="checkbox"/> Petition Routing Slip (PTO/SB/69) And Accompanying Petition
<input type="checkbox"/> To Convert a Provisional Application
<input type="checkbox"/> Power of Attorney, Revocation Change of Correspondence Address
<input type="checkbox"/> Terminal Disclaimer
<input type="checkbox"/> Small Entity Statement
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<input type="checkbox"/> After Allowance Communication To Group
<input type="checkbox"/> Appeal Communication to Board Of Appeals and Interferences
<input type="checkbox"/> Appeal Communication to Group (Appeal Notice, Brief, Reply Brief)
<input type="checkbox"/> Proprietary Information
<input type="checkbox"/> Status Letter
<input checked="" type="checkbox"/> Additional Enclosure(s) (Please identify below):
<ul style="list-style-type: none"> • PTO SB/44 • Request for Certificate of Correction

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SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm or Individual name	Patrick J.G. Stiennon, Reg. No. 34934
Signature	
Date	November 9, 2006

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Signature		Date: November 9, 2006

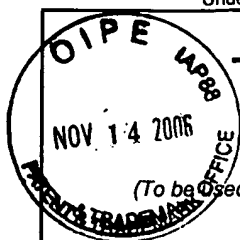
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C9/C

In The United States Patent And Trademark Office

Applicant: Jeffrey P. Milsap Date: November 9, 2006
Date Filed: December 18, 2001 Docket No.: MILSJE-2
App. No.: 10/024,159 Art Unit: 2644
Patent No.: 7,130,430 Issue Date: October 31, 2006
For: Phased Array Sound System Examiner: B. Pendleton

Certificate of Mailing

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Name of applicant, assignee or Registered Representative

**Request for Certificate of Correction
With Expedited Processing**

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Certificate
NOV 17 2006
of Correction

Applicant requests that a Certificate of Correction be issued as shown on the PTO/SB/44
enclosed herewith.

This request for correction is incurred solely through the fault of the United States Patent

Applicant: Jeffrey P. Milsap
Application No.: 10/024,159
Art Unit: 2644

and Trademark Office, as is clearly disclosed in the records of the Office. The accompanying documentation unequivocally supports this assertion of USPTO error, and includes copies of the relevant pages of the record, so that this request may be processed without the file. The relevant sections of the record have been highlighted in yellow.

Expedited processing is requested under the provisions of the August 21, 2002, Official Notice in 1262 TMOG 96.

Applicant respectfully requests that the typographical error in the text of the published patent that was not in the original application be corrected by a Certificate of Correction under 37 CFR 1.322.

In Col. 14, line 49, of the issued patent, after "each" and before "speaker" delete --sound-
- as written in the amendment dated August 3, 2006, on page 6, line 20.

Applicant believes that this Office mistake is an error of consequence that merits the issuance of a Certificate of Correction as it is of such a nature that the intended meaning may not be obvious from the context.

Respectfully submitted,



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UNITED STATES PATENT AND TRADEMARK OFFICE CERTIFICATE OF CORRECTION

PATENT NO : 7,130,430
DATED : October 31, 2006
INVENTOR(S): Jeffrey P. Milsap

It is certified that error appears in the above-identified patent and that said Letters Patent are hereby corrected as shown below:

In column 14, line 49, after "each" and before "speaker" delete --sound--

MAILING ADDRESS OF SENDER:

PATENT NO. 7,130,430

STIENNON & STIENNON
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Madison, WI 53701-1667

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Relevant page from printed U.S. Patent No. 7,130,430

locating device or seated in the proper location can hear a presenter in his or her own language without the use of cumbersome headphones.

A sound system of this invention may also make possible having both edited and non-edited versions of motion picture film dialog presented to the same audience at the same time, or even different plot lines could be presented to different portions of the audience. Hands-free phone operation might be achieved in open office environments while still maintaining private conversation. Buildings so equipped could take advantage of listener tracking to automatically route telephone and intercom signals to the desired recipient without the need of a handset, or a public address system which is heard by all.

It should further be understood that the sound produced by the sound system of this invention is a 'real image' which actually comes from the location it appears to come from, creating many opportunities for sound reproduction and special effects of video games, Multimedia presentations and high fidelity music.

It is understood that the invention is not limited to the particular construction and arrangement of parts herein illustrated and described, but embraces such modified forms thereof as come within the scope of the following claims.

I claim:

1. A speaker system for producing localized regions of sound comprising:

a multiplicity of audio frequency speakers;

at least one defined sound target spaced from each of the speakers of the multiplicity of speakers, wherein each speaker has a means for applying a time varying audio drive voltage which is substantially identical, except that each audio drive voltage is offset in time by an amount which is related to the distance between each speaker and the defined sound target, so that substantially identical sound from each speaker reaches the sound target at the same time;

wherein the speakers are arranged in a single plane;

further comprising a room having a ceiling, and wherein the speakers are mounted to the ceiling; and wherein each of the multiplicity of audio frequency speakers is formed as part of a ceiling panel which can be joined to a further ceiling and panel, to communicate power and data between said ceiling panel and said further ceiling panel.

2. A speaker system for producing localized regions of sound comprising:

a multiplicity of audio frequency speakers;

at least one defined sound target spaced from each of the speakers of the multiplicity of speakers, wherein each speaker has a means for applying a time varying audio drive voltage which is substantially identical, except that each audio drive voltage is offset in time by an amount which is related to the distance between each speaker and the defined sound target, so that substantially identical sound from each speaker reaches the sound target at the same time;

at least a first defined sound target and a second defined sound target, the second sound target being spaced from the first sound target, and the first sound target and the second sound target being spaced from each of the speakers of the multiplicity of speakers, and wherein the means for applying a time varying audio drive voltage comprises:

at least a first audio source which is offset in time by an amount which is related to the distance between each speaker and the first defined sound target; and

at least a second audio source which is offset in time by an amount which is related to the distance between each speaker and the second defined sound target wherein a sum of the first audio source which is offset in time and the second audio source which is offset in time is used to produce the time varying audio drive voltage so that substantially identical sound from the first audio source signal reaches the first sound target at the same time, and substantially identical sound from the second audio source signal reaches the second target at the same time.

3. A speaker system for producing localized regions of sound comprising:

a multiplicity of audio frequency speakers;

at least one defined sound target spaced from each of the speakers of the multiplicity of speakers, wherein each speaker has a means for applying a time varying audio drive voltage which is substantially identical, except that each audio drive voltage is offset in time by an amount which is related to the distance between each speaker and the defined sound target, so that substantially identical sound from each speaker reaches the sound target at the same time; and

wherein the means for applying a time varying audio drive voltage includes a class D amplifier.

4. A speaker system for producing localized regions of sound comprising:

at least 100 audio frequency sound speakers arranged spaced apart in an array, in a space filled with air;

a first sound target spaced from the array;

a second sound target spaced from the array;

a means for determining the distance between each speaker and the first sound target;

a means for determining the distance between each speaker and the second sound target;

a first audio source;

a second audio source;

a means for delaying in time transmission of the first audio source to each one of the speakers by an amount of time which is related to the distance between each one of the speakers and the first sound target;

a means for delaying in time transmission of the second audio source to each one of the speakers by an amount of time which is related to the distance between each one of the speakers and the second sound target; and

a means for adding together the first audio signal and the second audio signal to create a combined signal, and supplying said combined signal to each sound speaker so that sound produced by each of the at least 100 speakers generates a first localized region of sound at the first sound target and a second localized region of sound at the second sound target.

5. The speaker system of claim 4 wherein the speakers are arranged in a single plane.

6. The speaker system of claim 4 further comprising a room having a ceiling wherein the speakers are mounted to the ceiling.

7. The speaker system of claim 5 wherein each of the multiplicity of audio frequency speakers is formed as part of a ceiling panel which can be joined together to communicate power and data.

8. The speaker system of claim 4 further comprising:

a room; and

indicia positioned within the room providing information for gaining access to the sound target.

Relevant page from amendment in U.S. Application No. 10/024,159,
filed on August 3, 2006

Applicant: Jeffrey P. Milsap
Application No.: 10/024,159
Response to Office action dated July 27, 2006
Response filed August 3, 2006

8. (currently amended) A speaker system for producing localized regions of sound comprising:

at least 100 audio frequency sound speakers arranged spaced apart in an array, in a space filled with air;

a first sound target spaced from the array;

a second sound target spaced from the array;

a means for determining the distance between each ~~sound~~ speaker and the first sound target;

a means for determining the distance between each ~~sound~~ speaker and the second sound target;

a first audio source;

a second audio source;

a means for delaying in time[[,]] transmission of the first audio source to each one of the speakers[[,]] by an amount of time which is related to the distance between each one of the speakers and the first sound target;

a means for delaying in time transmission of the second audio source to each one of the speakers by an amount of time which is related to the distance between each one of the speakers and the second sound target; and

a means for adding together the first audio signal and the second audio signal to create a combined signal, and supplying said combined signal to each ~~sound~~ speaker so that sound produced by each of the at least 100 speakers generates a first localized region of sound at the first sound target and a second localized region of sound at the second sound target.